WHAT IS CLAIMED IS:

1. A method for fabricating a semiconductor device comprising:

the step of depositing an insulation film with a first pressure set in a deposition chamber;

the pressure adjusting step of decreasing a pressure in the deposition chamber from a first pressure to a second pressure which is lower than the first pressure; and

the step of further depositing the insulation film with the second pressure set in the deposition chamber.

2. A method for fabricating a semiconductor device according to claim 1, wherein

in the pressure adjusting step, a pressure in the deposition chamber is gradually decreased from the first pressure to the second pressure while an atmosphere in the deposition chamber is being replaced by an inert atmosphere.

3. A method for fabricating a semiconductor device according to claim 1, wherein

in the pressure adjusting step, a pressure in the deposition chamber is gradually decreased at a rate smaller than 40 Torr/sec.

4. A method for fabricating a semiconductor device according to claim 3, wherein

in the pressure adjusting step, a pressure in the deposition chamber is gradually decreased at a 5 - 40 Torr/sec.

5. A method for fabricating a semiconductor device comprising:

the step of depositing an insulation film with a first pressure set in a deposition chamber;

the step of exhausting an atmosphere in the deposition chamber so as to gradually decrease the pressure in the deposition chamber while an atmosphere in the deposition chamber is being replaced by an inert atmosphere;

the pressure adjusting step of setting a second pressure lower than the first pressure in the deposition chamber; and

the step of further depositing the insulation film with the second pressure set in the deposition chamber.

6. A method for fabricating a semiconductor device according to claim 5, wherein

in the step of exhausting an atmosphere in the deposition chamber, the atmosphere in the deposition chamber is exhausted so as to gradually decrease the pressure in the deposition chamber at a rate smaller than 40 Torr/sec.

7. A method for fabricating a semiconductor device according to claim 6, wherein

in the step of exhausting an atmosphere in the deposition chamber, the atmosphere in the deposition chamber is exhausted so as to gradually decrease the pressure in the deposition chamber at a 5 - 40 Torr/sec.

8. A method for fabricating a semiconductor device comprising:

the step of depositing an insulation film with a first pressure set in a deposition chamber;

the step of replacing the atmosphere in the deposition chamber by an inert atmosphere;

the step of exhausting the atmosphere in the deposition chamber;

the pressure adjusting step of setting a second pressure lower than the first pressure in the deposition chamber; and

the step of further depositing the insulation film with the second pressure set in the deposition chamber.

9. A method for fabricating a semiconductor device comprising:

the step of depositing an insulation film with a first pressure set in a deposition chamber;

the step of exhausting an atmosphere in the deposition chamber while the atmosphere in the deposition chamber is being replaced by an inert atmosphere;

the pressure adjusting step of setting a second pressure lower than the first pressure in the deposition chamber; and

the step of further depositing the insulation film with the second pressure set in the deposition chamber.

10. A method for fabricating a semiconductor device according to claim 5, wherein

in the pressure adjusting step, the pressure in the deposition chamber is set at the second pressure while an inert gas is being introduced into the deposition chamber.

11. A method for fabricating a semiconductor device according to claim 8, wherein

in the pressure adjusting step, the pressure in the deposition chamber is set at the second pressure while an inert gas is being introduced into the deposition chamber.

12. A method for fabricating a semiconductor device according to claim 9, wherein

in the pressure adjusting step, the pressure in the deposition chamber is set at the second pressure while an inert gas is being introduced into the deposition chamber.

13. A method for fabricating a semiconductor device according to claim 1, which further comprises,

before the step of depositing the insulation film, the step of forming a gate electrode of a transistor on a semiconductor substrate; and

in which in the step of depositing the insulation film, the insulation film is deposited so as to cover the gate electrode.

14. A method for fabricating a semiconductor device according to claim 5, which further comprises,

before the step of depositing the insulation film, the step of forming a gate electrode of a transistor on a semiconductor substrate; and

in which in the step of depositing the insulation film, the insulation film is deposited so as to cover the gate electrode.

15. A method for fabricating a semiconductor device according to claim 8, which further comprises,

before the step of depositing the insulation film, the step of forming a gate electrode of a transistor on a semiconductor substrate; and

in which in the step of depositing the insulation film, the insulation film is deposited so as to cover the gate electrode.

16. A method for fabricating a semiconductor device according to claim 9, which further comprises,

before the step of depositing the insulation film, the step of forming a gate electrode of a transistor on a semiconductor substrate; and

in which in the step of depositing the insulation film, the insulation film is deposited so as to cover the gate electrode.

17. A method for fabricating a semiconductor device according to claim 1, which further comprises,

before the step of depositing the insulation film, the step of forming an interconnection layer above the semiconductor substrate; and

in which in the step of depositing the insulation film, the insulation film is deposited so as to cover the interconnection layer.

18. A method for fabricating a semiconductor device according to claim 5, which further comprises,

before the step of depositing the insulation film, the step of forming an interconnection layer above the semiconductor substrate; and

in which in the step of depositing the insulation film,

the insulation film is deposited so as to cover the interconnection layer.

19. A method for fabricating a semiconductor device according to claim 8, which further comprises,

before the step of depositing the insulation film, the step of forming an interconnection layer above the semiconductor substrate; and

in which in the step of depositing the insulation film, the insulation film is deposited so as to cover the interconnection layer.

20. A method for fabricating a semiconductor device according to claim 9, which further comprises,

before the step of depositing the insulation film, the step of forming an interconnection layer above the semiconductor substrate; and

in which in the step of depositing the insulation film, the insulation film is deposited so as to cover the interconnection layer.

21. A method for fabricating a semiconductor device according to claim 1, wherein

the first pressure is 400 - 600 Torr; and

the second pressure is 200 - 400 Torr.

22. A method for fabricating a semiconductor device according to claim 5, wherein

the first pressure is 400 - 600 Torr; and

the second pressure is 200 - 400 Torr.

23. A method for fabricating a semiconductor device according to claim 8, wherein

the first pressure is 400 - 600 Torr; and

the second pressure is 200 - 400 Torr.

24. A method for fabricating a semiconductor device according to claim 9, wherein

the first pressure is 400 - 600 Torr; and

the second pressure is 200 - 400 Torr.

25. A method for fabricating a semiconductor device according to claim 1, wherein

in the step of depositing the insulation film, the insulation film is deposited by thermal chemical vapor deposition.

26. A method for fabricating a semiconductor device according to claim 5, wherein

in the step of depositing the insulation film, the insulation film is deposited by thermal chemical vapor deposition.

27. A method for fabricating a semiconductor device according to claim 8, wherein

in the step of depositing the insulation film, the insulation film is deposited by thermal chemical vapor deposition.

28. A method for fabricating a semiconductor device according to claim 9, wherein

in the step of depositing the insulation film, the

insulation film is deposited by thermal chemical vapor deposition.

29. A method for fabricating a semiconductor device according to claim 1, wherein

the insulation film is a BPSG film, a BSG film, a PSG film or an USG film.

30. A method for fabricating a semiconductor device according to claim 5, wherein

the insulation film is a BPSG film, a BSG film, a PSG film or an USG film.

31. A method for fabricating a semiconductor device according to claim 8, wherein

the insulation film is a BPSG film, a BSG film, a PSG film or an USG film.

32. A method for fabricating a semiconductor device according to claim 9, wherein

the insulation film is a BPSG film, a BSG film, a PSG film or an USG film.

33. A method for fabricating a semiconductor device according to claim 1, further comprising,

after the step of further depositing the insulation film, the step of polishing the surface of the insulation film.

34. A method for fabricating a semiconductor device according to claim 5, further comprising,

after the step of further depositing the insulation film, the step of polishing the surface of the insulation film.

35. A method for fabricating a semiconductor device according to claim 8, further comprising,

after the step of further depositing the insulation film, the step of polishing the surface of the insulation film.

36. A method for fabricating a semiconductor device according to claim 9, further comprising,

after the step of further depositing the insulation film, the step of polishing the surface of the insulation film.